(12) UK Patent Application (19) GB (11) 2 093 375 A

(21) Application No 8136785
(22) Date of filing 7 Dec 1981
(30) Priority data
(31) 3046257
(32) 8 Dec 1980
(33) Fed. Rep. of Germany (DE)
(43) Application published
2 Sep 1982
(51) INT CL³
B05C 1/08
(52) Domestic classification
B2L 106A 126 162 204 207 B
(56) Documents cited
GB 1492962
GB 1444305
(58) Field of search
B2L
(71) Applicants
MAN-Roland Druckmaschinen AG, 6050 Offenbach am Main Christian-Pless-Strasse 6—30, Germany, Federal Republic of Germany
(72) Inventor
Herbert Rebel
(74) Agents
Gallafent and Co., 8 Staple Inn, London WC1V 7QH

(54) Varnishing unit for a printing press

(57) The varnishing unit includes a supply tank (1), a fountain roller (2) and a metering roller (3) which feed a dosed quantity of varnish to distributor (4) and form (5) rollers. At least two wiper rollers (7), which can be adjusted against the fountain roller (2) are provided upstream of the contact point of the metering roller (3) and fountain roller (2). These wiper rollers allow a size-related varnish supply to be provided on the fountain roller (2). The metering roller (3), which is in contact with the fountain roller (2) may be wiped off by means of the wiper blade (6), and the wiped off varnish may be fed to the varnish tank (1). Variation of the varnish supply to match the desired format can be achieved by varying the inclination of the wiper rollers (7).

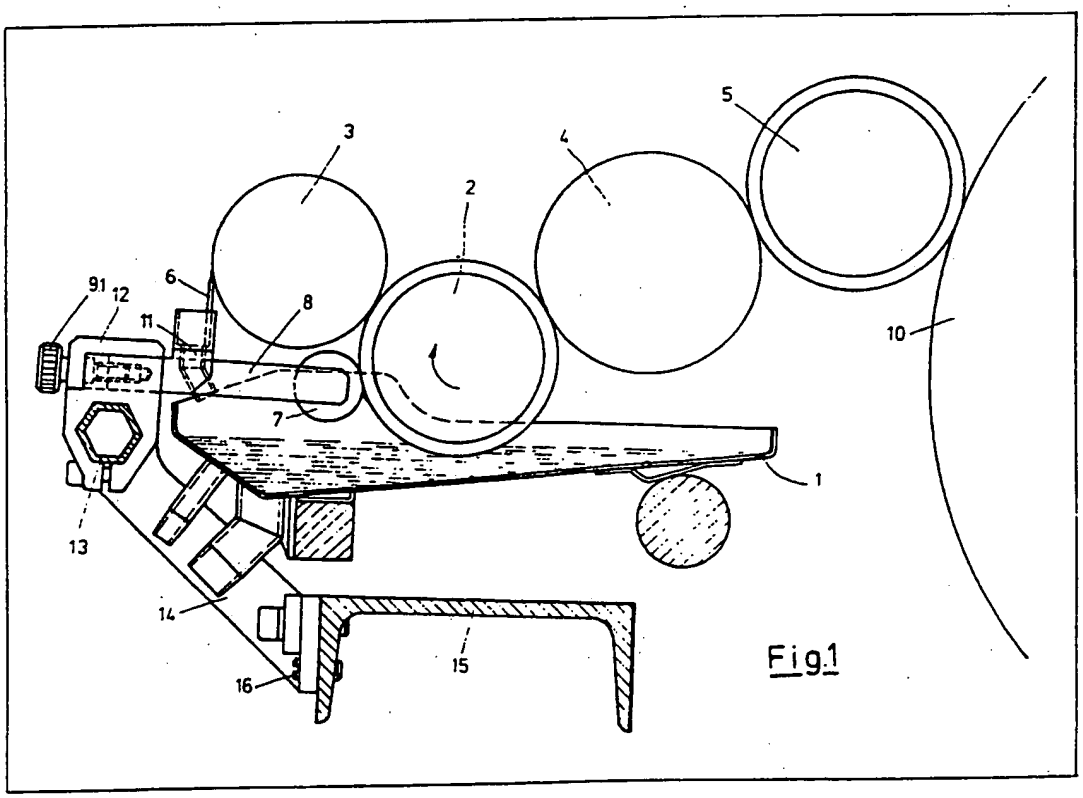

Fig.1

GB 2 093 375 A

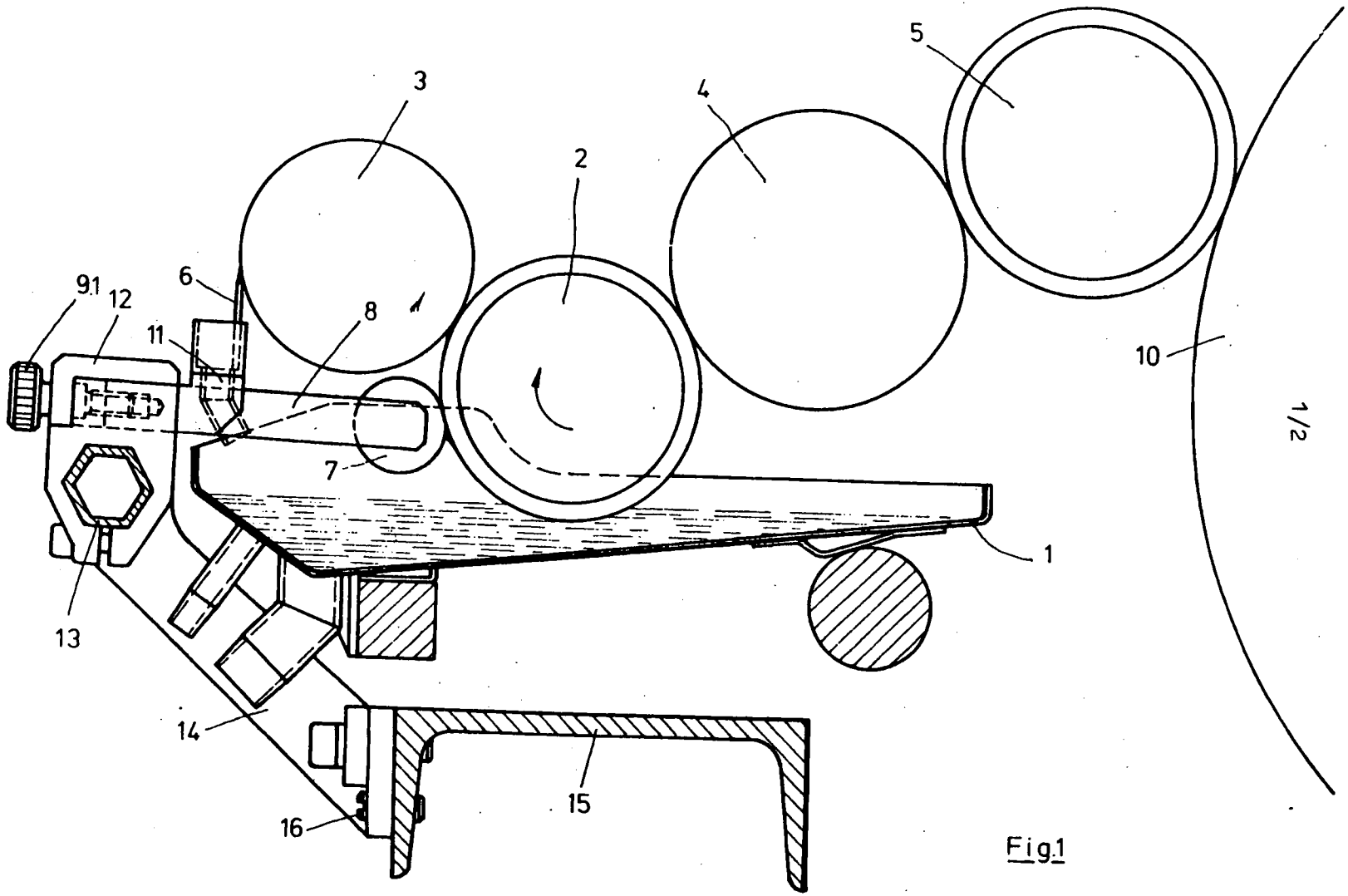

Fig.1

2093375

2093375

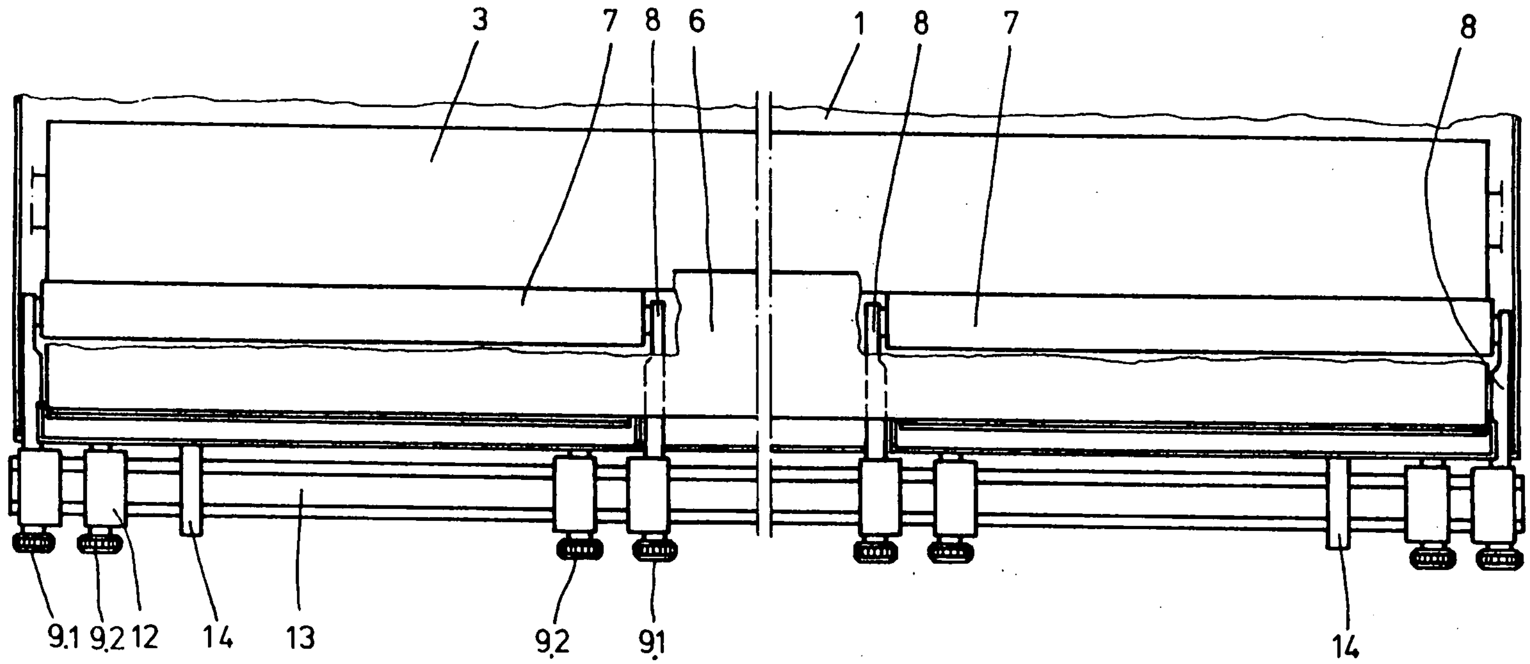

Fig. 2

SPECIFICATION

Varnishing unit for use on a printing press

This invention relates to a varnishing unit for use on a printing press, particularly to such a unit comprising a varnish supply tank and a fountain roller which is partially immersed in the tank, the quantity of varnish collected by the fountain roller being controlled by a metering roller and fed to a distributor roller and form roller.

The use of the final printing unit in a printing press as a varnishing unit has proved to be an effective method when varnishing printed sheets in one machine pass. If a so-called damping fountain varnish is used, varnishing can be performed by the damping unit without additional equipment. The varnish is then metered by the damping unit to the printing plate like the damping solution.

United States Patent Specification 3,552,311 describes an arrangement for the supply of a liquid in a printing press. With this arrangement the liquid is metered by inclination of a roller, a wider or narrower zone without damping solution resulting according to the position of the roller. The particular disadvantage of this arrangement is that metered application of varnish on the printing plate is not possible. It is likewise not possible to apply varnish over certain areas only, dependent on the format of the material to be varnished.

According to the present invention, there is provided a printing press comprising a varnish supply tank, a fountain roller partially immersed in the tank, and a distributor roller in contact with the fountain roller, and a form roller in contact with the distributor roller, and wherein the unit contains at least two wiper rollers which can be placed against the fountain roller, can adjust the format of the varnish supply depending on their position, and are located upstream of the contact point of the metering roller with the fountain roller, and a wiper blade adapted to be brought into contact with the metering roller and adapted to remove varnish on the metering roller and return it to the varnish supply tank.

In such a press the varnish supply is initially adjusted to the sheet size or subject by adjusting the position or inclination of the wiper rollers and then the actual metering of the quantity of varnish is effected. The metering can be carried out without affecting the varnish-free areas, because the varnish has previously been removed from the metering roller in such areas.

In a preferred embodiment of the invention, several inclinable wiper rollers are provided across the width of the varnishing unit. Consequently there is the additional advantage that not only size-related, but also subject-related application of varnish is possible.

One embodiment of the invention is explained in more detail below by way of example and with reference to the accompanying drawings in which:

Figure 1 shows a side view of a varnishing unit on a printing press, partially in section, and

Figure 2 is a plan view of the varnishing unit shown in Figure 1.

The basic roller arrangement of the varnishing unit shown in the drawings corresponds to that of a known continuously operating damping unit, and consists of a fountain roller 2, which is partially immersed in a varnish supply tank 1, a metering roller 3, which can be placed against the fountain roller 2, a distributor roller 4 and form roller 5, which rests against a varnishing cylinder 10.

In accordance with the invention, wiper rollers 7, which can be placed against the fountain roller 2 and permit size-related metering of the varnish, are also provided. A wiper blade 6 extending over the length of the metering roller 3 can be placed against the latter and actuated via adjusters 9.2.

The varnish is metered according to two criteria:

1) the quantity of varnish for the varnish coating (coating thickness), and

2) the size-related metering of the varnish.

The varnish for the coating is metered by the metering roller 3, which can be placed against the fountain roller 2. To prevent reactions on the metering, the quantity of varnish on the metering roller 3 upstream of the nip between the fountain roller 2 and metering roller 3 is removed by the wiper blade 6 and fed back to the varnish supply tank 1 via a return channel 11. This removal ensures that the same quantity of fresh varnish always reaches the distributor roller 4 and thus the form roller 5.

Size-related metering of the varnish is effected by at least two wiper rollers 7, which can be placed against the fountain roller 2 and are mounted in such a way that they can be inclined to the fountain roller 2. Consequently the varnish can be supplied in such a way that only a partial area of the fountain roller 2 carries varnish. Subject-related varnish supply is also possible if more than two wiper rollers 7 are used.

To ensure that size-related metering is possible even before the quantity of varnish is metered, the wiper rollers 7 are arranged upstream of the point of contact between the fountain roller 2 and the metering roller 3.

For adjustment of the wiper rollers 7 in relation to the fountain roller 2, the wiper rollers 7 are mounted on carrier arms 8, which are adjustable in relation to the fountain roller 2. The carrier arms can be actuated, for example, by adjusters 9.1.

To retain flexibility with size-related metering, it is advantageous to guide the carrier arms 8 in holders 12 which can be moved on a cross-beam 13.

To permit subsequent attachment of the equipment required for metering the varnish to an existing printing press, the cross-beam 13 is mounted in carrier arms 14, which can be bolted on to an already existing frame cross-beam 15. To ensure easier and accurately adjusted positioning of the carrier arms 14, locating pins 16 are provided on the frame cross-beam 15.

CLAIMS

1. A varnishing unit for use on a printing press,

comprising a varnish supply tank, a fountain roller partially immersed in the tank, a metering roller and a distributor roller in contact with the fountain roller, and a form roller in contact with the distributor roller, and wherein the unit contains at least two wiper rollers which can be placed against the fountain roller, can adjust the format of the varnish supply depending on their position, and are located upstream of the contact point of the metering roller with the fountain roller and a wiper blade adapted to be brought into contact with the metering roller and adapted to remove varnish on the metering roller and return it to the varnish supply tank.

2. A varnishing unit according to claim 1 and including means to adjust the inclination of the wiper rollers, the means including carrier arms on which the rollers are mounted, and adjusters acting on the carrier arms to vary their positions.

3. A varnishing unit according to claim 1 or 2 wherein the wiper blade which can be placed against the metering roller extends across the full length of the metering roller.

4. A varnishing unit according to any one of claims 1 to 3 and including means for adjusting the position of the wiper rollers axially relative to the fountain roller.

5. A varnishing unit for a printing press substantially as hereinbefore described with reference to the accompanying drawings.

6. A printing press including a varnishing unit according to any one of the preceding claims.

Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1982. Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.